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61 *Cygni.*

Captain Jacob supposes that this star will arrive at a minimum distance of $17''$ or $17''.5$ within the next 30 years; that the period is about 660 years; and that $a = 21''$ or $22''$, and $e =$ about 0·25; the mass being not much inferior to that of the sun.

Proper Motion of B.A.C. 535. By Mr. Johnson.

In comparing the results of the Oxford Observations with those of other catalogues, the true proper motion of this star has been detected:—

Right Ascension.

B. A. C. 535 = B. F. 203 = P. I, 159 = Groombridge 376 = Taylor 571 = Greenwich 12-Year, 150.

			h m s		s
Piazzi	1800	R.A. =	1 33 26·20	Prec. =	+4·104
Groombridge	1810		34 8·02		4·114
Taylor	1835		35 54·22		4·138
Greenwich	1845		36 36·12		4·147
Oxford	1845	=	1 36 36·05		4·147
—	1850		......		+4·152

The above reduced to 1850 by the Prec. due to the middle period, become

			h m s
Piazzi	1850	R.A. =	1 36 52·60
Groombridge	—		53·34
Taylor	—		56·40
Greenwich	—		56·87
Oxford	—	=	1 36 56·80

The mean epoch of the observations on which the Greenwich R.A. depends is 1843. The Oxford epoch is 1844. These R.A. compared with Piazzi's give an Annual Proper Motion = $+0^s.0974$.

Applying the correction $+0^s.0974\,(1850-t)$, t being the epoch of the respective catalogues, we have

			h m s
Piazzi	1850	R.A. =	1 36 57·47
Groombridge	—		57·24
Taylor	—		57·86
Greenwich	—		57·55
Oxford	—	=	1 36 57·38

The mean of the above is $1^h\,36^m\,57^s.50$. The R.A. of B.A.C. is $1^h\,36^m\,52^s.95$.

Mr. Baily supposed that there was a mistake of one year's precession in Mr. Taylor's R.A. He was led to this supposition, apparently, by a mistake in the Madras catalogue, where the proper motion in R.A. is given = $0^s.009$, instead of $0^s.09$.

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North Polar Distance.

		N.P.D.	Prec.		N.P.D.
		° ′ ″	″		
Piazzi	1800	= 27 8 32·7	−18·41	1850	= 26 53 15·2
Groomb.	1810	27 5 31·2	18·39	—	17·6
Taylor	1835	26 57 56·9	18·33	—	25·5
Greenw.	1845	26 54 55·8	18·30	—	24·3
Oxford	1845	= 26 54 56·7	18·30	—	= 26 53 25·2
—	1850	......	−18·29		

The mean epoch of the Greenwich observations is 1843. The Oxford epoch is also 1843. Comparing these N.P.D. with Piazzi's, there appears to be an Annual Proper Motion in N.P.D. = + 0″·22.

Correcting the above N.P.D. for 1850 by + 0″·22 (1850 − *t*), we have

			° ′ ″
Piazzi	1850	N.P.D. =	26 53 26·2
Groombridge	—		26·4
Taylor	—		25·5
Greenwich	—		25·8
Oxford	—		26 53 26·7

The Madras Catalogue makes the Proper Motion in N.P.D. = + 0″·19
The B.A.C. „ „ = + 0·14

Letter from Lord Wrottesley.

"On the 1st of January last, I commenced observing a new catalogue of the right ascensions of small stars, selected from the B.A.C. The catalogue, when complete, will contain above 1000 stars of the 6th and 7th magnitudes, chosen from among those which have either great proper motion or have been inadequately observed. It is a curious coincidence that the Madras Observatory, which was before engaged contemporaneously with myself on a similar task, has again entered upon the same field of inquiry; and I cannot do better than imitate the example of the Madras Astronomer, by communicating to the Royal Astronomical Society from time to time those stars whose places differ materially from the catalogue already referred to.

"In all these cases, care has been taken to search diligently for the true star; but none could be found nearer to the place given in the catalogue. It is my intention to observe each star at least five times, and therefore it will be understood that the observations of some of the objects in the accompanying list are not yet finished.

"The observations are made with the 5-foot transit and clock described in the tenth volume of the *Royal Astronomical Society's Memoirs*, set up in a fixed observatory, the place of which is given in the *Nautical Almanac for* 1852, *et seq.*; but the detailed description of which I may postpone till the catalogue is completed."

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